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=> d his

     (FILE 'HOME' ENTERED AT 10:44:40 ON 18 NOV 2003)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS,
     DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, ...' ENTERED AT 10:45:04 ON 18 NOV
     2003
               SEA AMIDOHYDROLASE
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FILE 'MEDLINE, CAPLUS, TOXCENTER, BIOSIS, SCISEARCH, EMBASE, CANCERLIT, BIOTECHNO, USPATFULL, ESBIOBASE, PASCAL, LIFESCI' ENTERED AT 10:46:31 ON 18 NOV 2003

L2	11	S L1 AND OXYTOCA
L3	11	DUP REM L2 (0 DUPLICATES REMOVED)
L4	9540	S L1
L5	53	S L4 AND PROPIONAMIDE
L6	37	DUP REM L5 (16 DUPLICATES REMOVED)
L7	2	S L4 AND (METHYL PROPIONAMIDE)
L8	2	DUP REM L7 (0 DUPLICATES REMOVED)

=> d l6 ibib ab 30-37

L6 ANSWER 30 OF 37 MEDLINE on STN
ACCESSION NUMBER: 83018102 MEDLINE
DOCUMENT NUMBER: 83018102 *PubMed ID: 7123994*
TITLE: [Microbial side chain splitting of phenylurea and carbonic acid anilides].
Mikrobielle Seitenkettenabspaltung von Phenylharnstoffen und Carbonsaureaniliden.
AUTHOR: Lechner U; Straube G; Kohler M
SOURCE: ZEITSCHRIFT FUR ALLGEMEINE MIKROBIOLOGIE, (1982) 22 (4) 237-44.
Journal code: 0413631. ISSN: 0044-2208.
PUB. COUNTRY: GERMANY, EAST: German Democratic Republic
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: German
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198212
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19821202

AB A Gram- negative rod-shaped bacterium 28/1 isolated by enrichment cultures is able to hydrolyze the amide bond of some phenylurea herbicides and acid anilide herbicides by an inducible amidase. 7.5% of 0.3 mumol.ml-1 linuron (3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea) are hydrolyzed after 16 hours. 1,1-Dimethylphenylureas are not degraded. Acid anilides are hydrolyzed at a higher rate, 80% of 0.5 mumol.ml-1 N-(4-chlorophenyl)-**propionamide** and N-(4-nitrophenyl)-**propionamide** are transformed after 6 hours. The 1-methoxy-1-methyl phenylureas are effective inducers. Linuron-induced cells have a specific activity of 3-4 *nmol per mg dry weight per min on* the substrate N-(3,4-dichlorophenyl)-**propionamide** (Propanil). The rate of hydrolysis is influenced by substituents of the aniline ring and by the structure of the side chain of the acid anilides.

L6 ANSWER 31 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1980:261962 BIOSIS
DOCUMENT NUMBER: PREV198070054458; BA70:54458
TITLE: AMIDASE EC-3.5.1.4 IN SOILS 1. METHOD OF ASSAY.
AUTHOR(S): FRANKENBERGER W T JR [Reprint author]; TABTABAI M A
CORPORATE SOURCE: DEP AGRON, IOWA STATE UNIV, AMES, IOWA 50011, USA
SOURCE: Soil Science Society of America Journal, (1980) Vol. 44, No. 2, pp. 283-287.
CODEN: SSSJD4. ISSN: 0361-5995.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB Amidase [acylamide **amidohydrolase**, EC 3.5.1.4] is the enzyme that catalyzes the hydrolysis of amides and produces the corresponding carboxylic acid and ammonia. The detection of this enzyme in soils is reported, and a simple, sensitive and precise method to assay amidase is described. The method involves determination by steam distillation of the NH4+ produced by amidase activity when soil is incubated with buffered (0.1 M THAM, pH 8.5) amide solution and toluene at 37.degree. C. The amide compounds studied included formamide, acetamide, and **propionamide**. The procedure developed gives quantitative recovery of NH4-N added to soils and does not cause chemical hydrolysis of the substrates. This soil enzyme apparently has its optimum activity at buffer pH 8.5 and is inactivated at temperatures above 60.degree. C. By varying the substrate concentration it was found that the initial velocity of the amidase reaction is optimum at 0.05 M substrate. The initial rates of NH4-N released obeyed zero-order kinetics. Steam sterilization destroyed amidase activity in soils, and formaldehyde, sodium fluoride and

sodium arsenite inhibited it. Assay of amidase activity in the absence of toluene indicated that acetamide and **propionamide** may induce the synthesis of this enzyme by soil microorganisms.

L6 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1980:425046 CAPLUS
DOCUMENT NUMBER: 93:25046
TITLE: Amidase activity in soils: I. Method of assay
AUTHOR(S): Frankenberger, W. T., Jr.; Tabatabai, M. A.
CORPORATE SOURCE: Dep. Agron., Iowa State Univ., Ames, IA, 50011, USA
SOURCE: Soil Science Society of America Journal (1980), 44(2), 282-7
CODEN: SSSJD4; ISSN: 0361-5995
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Amidase (acylamide **amidohydrolase**, EC 3.5.1.4) [9012-56-0] is the enzyme that catalyzes the hydrolysis of amides and produces the corresponding carboxylic acid and NH3. The detection of this enzyme in soils is reported, and a simple, sensitive, and precise method to assay amidase is described. The method involves detn. by steam distn. of the NH4+ produced by amidase activity when soil is incubated with buffered (0.1M THAM, pH 8.5) amide soln. and toluene at 37.degree.. The amide compds. studied included formamide, acetamide, and **propionamide**. The procedure developed gives quant. recovery of NH4-N added to soils and does not cause chem. hydrolysis of the substrates. Results showed that this soil enzyme has its optimum activity at buffer pH 8.5 and is inactivated at temps. >60.degree.. By varying the substrate concn. it was found that the initial velocity of the amidase reaction is optimum at 0.05M substrate. The initial rates of ammonium-N released obeyed zero-order kinetics. Steam sterilization destroyed, and HCHO, NaF, and Na arsenite inhibited, amidase activity in soils. Assay of amidase activity in the absence of toluene indicated that acetamide and **propionamide** may induce the synthesis of this enzyme by soil microorganisms.

L6 ANSWER 33 OF 37 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 79209622 MEDLINE
DOCUMENT NUMBER: 79209622 PubMed ID: 110350
TITLE: Kinetic mechanism of the aliphatic amidase from Pseudomonas aeruginosa.
AUTHOR: Woods M J; Findlater J D; Orsi B A
SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1979 Mar 16) 567 (1) 225-37.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197909
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19970203
Entered Medline: 19790925
AB The kinetic constants for hydrolysis and transfer (with hydroxylamine as the alternate acceptor) of the aliphatic amidase (acylamide **amidohydrolase**, EC 3.5.1.4) from Pseudomonas aeruginosa were determined for a variety of acetyl and propionyl derivatives. The results obtained were consistent with a ping-pong or substitution mechanism. Product inhibition, which was pH dependent, implicated an acyl-enzyme compound as a compulsory intermediate and indicated that ammonia combined additionally with the free enzyme in a dead-end manner. The uncompetitive activation of acetamide hydrolysis by hydroxylamine and the observation that the partitioning of products between acetic acid and acetohydroxamate was linearly dependent on the hydroxylamine concentration substantiated these conclusions and indicated that deacylation was at least partially

rate limiting. With **propionamide** as the acyl donor apparently anomalous results, which included inequalities in certain kinetic constants and a hyperbolic dependence of the partition ratio on the hydroxylamine concentration, could be explained by postulating a compulsory isomerisation of the acyl-enzyme intermediate prior to the transfer reaction.

L6 ANSWER 34 OF 37 MEDLINE on STN
ACCESSION NUMBER: 77249349 MEDLINE
DOCUMENT NUMBER: 77249349 PubMed ID: 19418
TITLE: Induction of the acetamidase of Aspergillus nidulans by acetate metabolism.
AUTHOR: Hynes M J
SOURCE: JOURNAL OF BACTERIOLOGY, (1977 Sep) 131 (3) 770-5. Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197710
ENTRY DATE: Entered STN: 19900314
Last Updated on STN: 19950206
Entered Medline: 19771020

AB Growth tests and enzyme determinations strongly suggest that the acetamidase of Aspergillus nidulans is induced by a product of acetate metabolism rather than the substrate, acetamide. The cis-dominant mutation, amdI9, which is closely linked to amdS, the structural gene for the acetamidase, results in greatly increased sensitivity to induction by acetate metabolism. Propionate, L-threonine, and ethanol also result in acetamidase induction. Mutations in the facA, facB, and facC genes, which lead to low levels of acetyl-coenzyme A synthase, are epistatic to the amdI9 mutation for strong growth on acetamide medium and abolish acetamide and **propionamide** induction of the acetamidase and isocitrate lyase enzymes. Acetate, L-threonine, and ethanol, however, can induce these enzymes in strains containing facA and facC lesions but not in strains containing a facB lesion. The evidence suggests that acetamidase and isocitrate lyase may be induced by a similar mechanism.

L6 ANSWER 35 OF 37 MEDLINE on STN
ACCESSION NUMBER: 76216520 MEDLINE
DOCUMENT NUMBER: 76216520 PubMed ID: 932686
TITLE: Regulatory properties of an inducible aliphatic amidase in a thermophilic bacillus.
AUTHOR: Thalenfeld B; Grossowicz N
SOURCE: JOURNAL OF GENERAL MICROBIOLOGY, (1976 May) 94 (1) 131-41. Journal code: 0375371. ISSN: 0022-1287.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197608
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19970203
Entered Medline: 19760823

AB A thermophilic bacillus growing on acetamide as both carbon and nitrogen sources produces an inducible amidase. This amidase hydrolysed the following amides in decreasing order or activity, in comparison with acetamide (1.00): **propionamide** (0.97), fluoroacetamide (0.84), formamide (0.35) and glycinamide (0.12). Cyanoacetamide, dimethylacetamide, dimethylformamide and urea also induced the synthesis of the amidase, but were not substrates of the enzyme. Studies with protoplasts suggest that the amidase is located in the cytoplasm. Glucose strongly inhibited amidase synthesis; and limiting nitrogen did not release this inhibition. Urea strongly inhibited amidase activity in a

competitive manner; but the inhibition caused by iodoacetamide and cyanoacetamide was non-competitive. Both thioacetamide and thiourea were effective inhibitors of enzyme induction. Bacteria grown on a succinate-minimal medium exhibited a lag in amidase synthesis, which could be eliminated by decreasing the concentration of succinate. Acetate- or pyruvate-grown cultures behaved similarly, while those grown on alanine or glutamate exhibited no lag in enzyme induction. In the mutant strain E21, repression of amidase synthesis by glucose was much less evident and no lag for induction was apparent with any of the other carbon sources mentioned.

L6 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:403544 CAPLUS
DOCUMENT NUMBER: 83:3544
TITLE: Selective inhibition and the kinetic mechanism of the aliphatic amidase of Pseudomonase aeruginosa
AUTHOR(S): Woods, Margaret J.; Orsi, Bruno A.
CORPORATE SOURCE: Dep. Biochem., Trinity Coll., Dublin, Ire.
SOURCE: *Biochemical Society Transactions* (1974), 2(6), 1344-6
CODEN: BCSTB5; ISSN: 0300-5127
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Iodoacetamide (I) (10mM) at pH 7.0 and 25.degree. selectively inhibited the hydrolase activity of the aliph. amidase (II) (EC 3.5.1.4) of P. aeruginosa and enabled study of the kinetics of the transferase activity of II. Initial rate studies with **propionamide** as acyl donor and hydroxylamine as acyl acceptor, on a II prepn. inactivated with I indicated a Ping Pong mechanism. On I treatment, the Km of II for **propionamide** remained unchanged at 42.5 mM, that for **propionamide** hydrolysis fell from 4.52 mM to zero, and that for hydroxylamine decreased from 310 to 193 mM; Vmax decreased by 5.3%.

L6 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:92577 CAPLUS
DOCUMENT NUMBER: 66:92577
TITLE: Aliphatic acylamide **amidohydrolase** of Mycobacterium segmegmatis: its inducible nature and relation to acyltransfer to hydroxylamine
AUTHOR(S): Draper, P.
CORPORATE SOURCE: Univ. Coll., London, UK
SOURCE: Journal of General Microbiology (1967), 46(1), 111-23
CODEN: JGMIAN; ISSN: 0022-1287
DOCUMENT TYPE: Journal
LANGUAGE: English
AB *M. smegmatis NCTC 8159 grew equally well in a minimal medium (Kohn and* Harris, CA 36, 10569) which contained 0.2% succinate or acetamide as the sole C source. Bacteria grown on acetamide hydrolyzed formamide 60-fold and acetamide, **propionamide**, butyramide, and valeramide 13-19-fold more rapidly than bacteria cultured on succinate. Cell-free exts. of washed suspensions of M. smegmatis also hydrolyzed benzamide, phenylacetamide, nicotinamide, malonamide, fumaramide, glutamine, and asparagine; of these, nicotinamide was the best substrate, being hydrolyzed at .apprx.20% of the rate for butyramide. N-Substituted amides were not hydrolyzed by these bacteria or cell-free exts. Exts. of the bacteria grown on succinate transferred acyl groups from **propionamide**, butyramide, and nicotinamide to hydroxylamine to form hydroxamates. Transferase activity was decreased in the bacterial exts. grown on acetamide. Amidase activity in the bacterial exts. was purified 2-fold and freed from the transferase activity. Formamidase and butyramidase activities were not sepd., and they were similarly affected by heat and dithiobisnitrobenzoic acid. While the amidase was induced by growth of the bacteria on acetate and butyramide, it was not induced by growth on propionate, butyrate, or benzamide. N-Methylacetamide and N-acetylacetamide were nonsubstrate inducers of amidase for bacteria

growing on succinate. 41 references.